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ANNEX II

USCM SCORING GUIDE

25X1A14b

SUPPORT WING (SAC)

TECHNICAL PAMPHLET 170-1

25X1A14b HEADQUARTERS

SUPPORT WING (SAC)

25X1A14b

TECHNICAL PAMPHLET)  
NUMBER 170-1)

10 July 1956

(This Pamphlet Supersedes Technical Pamphlet 170-1, dtd 6 April 1956)

## I INTRODUCTION:

1. This technical pamphlet outlines the system for scoring Unit Simulated Combat Missions for Project "AQUATONE" units trained under the supervision of the [REDACTED] Support Wing (SAC).

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## II NUMERICAL SCORES:

1. Total possible numerical score for a USCM will be 100 points. Scoring will consist of the following items:

- a. Percent of required aircraft launched - - - - - 10 points
- b. Percent of required aircraft airborne on time - - - 10 points
- c. Percent of airborne aircraft effective - - - - - 20 points
- d. Percent of required aircraft completing mission as briefed - - - - - 15 points
- e. Percent accomplishment of USCM training requirements - - - - - 10 points
- f. Crew Proficiency:
  - (1) Navigation - - - - - 10 points
  - (2) Photo flight line flying - - - - - 20 points
- g. Combat reporting - - - - - 5 points

## III ADJECTIVAL RATING:

1. In addition to the numerical rating, a rating of effective, marginal, or non-effective will be given the following items:

- a. Briefings, de-briefings and critiques.
- b. Maintenance.
- c. Supply support.

2. Overall unit effectiveness will be expressed as combat ready or non-combat ready.

## IV DEFINITIONS:

1. Required Aircraft: That number of sorties directed by Project Headquarters in the Operations Order and other directives. Sorties cancelled by Headquarters will not be considered required. Additional sorties may not be scheduled by the Detachment Commander.

2. Airborne On Time: Each sortie must be airborne within one minute of the scheduled time. Aircraft not airborne within this time will be scored as follows:

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- a. 1 to 2 minutes early or late - - - - - 80%
- b. 2 to 5 minutes early or late - - - - - 70%
- c. 5 to 30 minutes early or late - - - - - 50%
- d. More than 30 minutes early or late - - - - - 0%

3. Effective Aircraft: Each aircraft will be scored according to the reconnaissance equipment which is operational through-out the mission. Equipment which is non-operational will down-grade the score in accordance with the tables below adjusted for the point in the mission where the failure occurred. If the failure occurs in the first 25% of the photographic portion of the mission, the equipment is considered non-operational for 100% of the mission. If the failure occurs in the second 25%, the equipment is considered non-operational for 75% of the mission. If the failure occurs in the third 25% of the mission, the equipment is considered non-operational for 50% of the mission. If the failure occurs in the last 25% of the mission, the equipment will be considered non-operational for 25% of the mission.

A-1 CONFIGURATION

EQUIPMENT	Periscope	ECM	Tracker	Camera	Tri-net	24"	Rocking	Sextant
				(any camera)		Camera	Mount	
DEGRADATION FACTOR	10%	15%	20%	35%	35%	5%	10%	

A-2 CONFIGURATION

EQUIPMENT	Periscope	ECM	Tracker	Vertical	L. Oblique	R. Oblique	Sextant
DEGRADATION FACTOR	10%	15%	20%	30%	30%	30%	10%

B CONFIGURATION

EQUIPMENT	Periscope	Tracker	ECM	B Camera	Sextant
DEGRADATION FACTOR	15%	20%	15%	65%	10%

WEATHER CONFIGURATION

EQUIPMENT	Tracker	Weather Equipment	ECM	Sextant
DEGRADATION FACTOR	20%	80%	15%	10%

4. Completing Mission as Briefed: The number of required aircraft which adhered to the complete mission route and profile as outlined in the mission directive, flew the required air miles and landed at the designated landing base. Minimum altitude over enemy territory (Beyond 150 NM radius from home base) will be 60,000 feet. If, due to flame-out or other cause, an aircraft descends below this altitude, zero score in this item will result.

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5. Accomplishment of USCM Training Requirements: Scoring for this item will be based on the percent of mission training requirements completed versus those scheduled for airborne aircraft. Weight for each training area is:

D/R Legs	Celestial Obs	Flight Lines	Total Possible
25%	25%	50%	100%

If weather or equipment failure precludes scoring of any training accomplishment, down-grading of scores will not result.

6. Navigation: Each mission will include one navigation leg of at least 600 NM in length. Dog legs may be included. In addition, ten celestial observations will be made on each mission. Termination point of each navigation leg will be selected prior to take-off. The pilot will use all available means of navigation except the radio compass on the navigation legs. The pilot will determine and record at least 20 minutes prior to termination point what his ETA is. This plus the pilot's estimate of the error in nautical miles at the expiration of the ETA will be reported at de-briefing. At the expiration of the ETA, the pilot will make a 90° turn to the right or left and another turn back onto course to show which tracking camera photograph was made on the ETA. This exposure will be used to score the navigation error. In the event weather or camera failure precludes plotting the photo, no points will be gained or lost. Award of points for this navigation leg will be as follows:

0 to 7 NM error	- - - - -	2 points
7.1 to 14 NM error	- - - - -	1 point
Over 14 NM error	- - - - -	0 points

The ten celestial observations will be recorded and scored in the following manner. Prior to take-off, the pilot will be given sufficient information to find the celestial body to be shot. He will be briefed to make his observations starting at a known point. He will record the time and position at the beginning and end of the observations and will record the time and  $H_0$  data of each observation. After the mission, an average error for the ten observations will be made and scores will be on the following basis:

**With Averager**

**Without Averager**

0 to 12 NM error	- - - - -	8 points
12.1 to 15 NM error	- - - - -	7 points
15.1 to 18 NM error	- - - - -	6 points
18.1 to 21 NM error	- - - - -	5 points
21.1 to 24 NM error	- - - - -	3 points
24.1 to 50 NM error	- - - - -	2 points
Over 50 NM error	- - - - -	0 points

0 to 18 NM error	- - - - -	8 points
18.1 to 22 NM error	- - - - -	7 points
22.1 to 26 NM error	- - - - -	6 points
26.1 to 29 NM error	- - - - -	5 points
29.1 to 33 NM error	- - - - -	3 points
33.1 to 60 NM error	- - - - -	2 points
Over 60 NM error	- - - - -	0 points

Sextant failure which precludes making observations will result in zero score.

a. If an averaging device is installed in the aircraft the celestial observations will be scored under the "With Averager" criterion. If it can be established, at the termination of the flight, that there was a malfunction of the averager, the celestial observations will be scored under the "Without Averager" criterion.

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b. If for reasons, other than a sextant malfunction, the pilot elects not to accomplish a total of ten celestial observations, those observations not accomplished will be given a score of over 50 NM with averager and over 60 NM without averager. (i.e. A pilot accomplishes only eight observations using a sextant without an averager. The average error for these eight observations is 20 NM. The remaining two unaccomplished observations scheduled will be given scores of over 60 NM each giving an average of 28 NM for the ten observations).

7. Photo Flight Line Flying: Photo results will be scored numerically on the basis of flight line deviation. In addition, each pilot will be graded as good, average or poor according to the magnitude of corrections needed on flight lines and the steadiness of the aircraft during the runs. The film from the vertical camera and the tracking camera of the configuration used will be used for scoring. If these are not available due to camera failure, the flight line will be scored as attempted but rejected. If film cannot be plotted due to weather, the run will not be scored and no points will be lost. Points will be awarded in accordance with the following table:

Within 5 NM of flight line over entire line	- - - -	20 points
Within 10 NM of flight line over entire line	- - -	15 points
Within 14 NM of flight line over entire line	- - -	10 points
Within 18 NM of flight line over entire line	- - -	5 points
Over 18 NM from flight line at any point	- - - -	0 points

Flight lines to be scored will be designated prior to take-off.

8. Combat Reporting: This item will be scored on the bases of timely submission of required reports. Points will be scored as follows:

Submitted on time	- - - - -	5 points
Up to 20 minutes late	- - - - -	4 points
Up to 40 minutes late	- - - - -	3 points
Up to 1 hour late	- - - - -	2 points
Up to 2 hours late	- - - - -	1 point
Over 2 hours late	- - - - -	0 points

9. Briefings, De-briefings and Critiques:

a. Briefings will be considered effective if they are well organized and all pertinent information is clearly presented in a logical sequence. Briefings will be considered marginal if USCM umpires are left in doubt as to the conduct of any phase of the mission. A mission with an improper presentation of two or more essential elements will result in the briefing declared non-effective.

b. De-briefings will be considered effective if all pertinent information is obtained from the pilot. Failure to obtain this will result in down-grading to marginal or non-effective, depending on the essentiality of missed items.

c. Critiques will be judged as above with special attention devoted to the thoroughness of the analysis of each important phase of the mission. Items of particular importance are:

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- (1) Delays or problems in mission dispatch and reasons therefore.
- (2) Route and profile flown.
- (3) Weather encountered versus briefed.
- (4) Photographic results.
- (5) Position reporting and communications problems, if any.
- (6) Equipment and aircraft malfunction.

10. Maintenance: The following areas will be considered in arriving at the maintenance rating:

a. Maintenance organization. This will include maintenance of aircraft records, supervision and control of personnel assigned and coordination and planning of different sub-sections of the maintenance organization.

b. Planning and coordination between operations and maintenance in preparing for the mission.

c. Number of aircraft required each day versus number provided. This will also include aircraft falling into the categories of late take-off, ground abort and air aborts due to maintenance malfunction.

d. Capability to turn aircraft after an abort or mission, engine changes and servicing of aircraft.

e. General condition of equipment such as ground power, oxygen, aircraft handling equipment, quick engine change kits, built-up engines, and towing equipment.

11. Supply Support: The following supply areas will be considered in arriving at the rating given supply support.

a. Number of supply requests made to the flyaway kit versus number of items issued.

b. Completeness of flyaway kit in percent. (Total items authorized versus total items on hand).

c. Completeness of UME in percent. (Total items authorized versus total items on hand).

12. Overall Unit Effectiveness: This item will be scored on the basis of scores achieved in the areas mentioned above plus coordination between elements of the detachment, completeness and serviceability of assigned property, reliability of aircraft and installed equipment, assignment and training status of authorized personnel, and command effectiveness.

V SCORING EXAMPLES:

1. Numerical Score:

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## a. Percent of required aircraft launched.

12 aircraft required  
10 launched

$$10 \div 12 = 83.3\%$$

$$83.3\% \times 10 \text{ points} = 8.3 \text{ points}$$

## b. Percent of required aircraft airborne on time.

12 aircraft required  
9 aircraft airborne on time  
1 aircraft airborne 3 minutes late  
1 aircraft airborne 10 minutes late  
1 aircraft airborne 1 hour late

$$9 \times 100\% + 70\% + 50\% + 0\% = 1020\% \div 12 = 85\%$$

$$85\% \times 10 \text{ points} = 8.5 \text{ points awarded}$$

## c. Percent of airborne aircraft effective.

12 aircraft required  
8 aircraft had no failure  
1 aircraft had tri camera failure. In first 25% of the mission  
1 aircraft had periscope and tracker failure immediately after take-off  
1 aircraft had right oblique of A-2 fail in first 25% of mission  
1 aircraft had complete ECM and sextant failure

$$8 \times 100\% + 65\% + 70\% + 70\% + 75\% = 1080\% \div 12 = 90\%$$

$$90\% \times 20 \text{ points} = 18 \text{ points}$$

## d. Percent of airborne aircraft completing mission as briefed.

12 aircraft required  
8 aircraft completed mission as briefed  
2 aircraft returned to base by direct route after last flight line  
2 aircraft descended below minimum altitude over enemy territory

$$8 \times 100\% + 4 \times 0\% = 800\% \div 12 = 66.6\%$$

$$66.6\% \times 15 = 10 \text{ points}$$

## e. Percent accomplishment of USCM training requirements.

(Items not attainable due to weather will not be charged against the unit)

D/R navigation legs scheduled	28	accomplished	18
Celestial observations "	60	"	50
Photo Flight lines "	60	"	55

$$18 \div 20 \times 25\% + 50 \div 60 \times 25\% + 55 \div 60 \times 50\% = 88.9\%$$

$$88.9\% \times 15 = 13.3 \text{ points}$$

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f. Crew proficiency.

(1) D/R Navigation

18 navigation legs scored

8 had error of less than 5 NM

8 had error of more than 5 NM but less than 10 NM

2 had error of more than 10 NM but less than 15 NM

$$8 \times 2 + 8 \times 1 + 2 \times 0 = 24$$

$$24 \div 18 = 1.3$$

(2) Celestial Observations

18 groups of 10 celestial observations each, accomplished

With averager

5 circular error averages less than 12 NM

2 circular error averages more than 12 NM but less than 18

2 circular error averages more than 18 NM but less than 21

Without averager

2 circular error averages less than 18 NM

5 circular error averages more than 22 NM but less than 26

2 circular error averages more than 29 NM but less than 33

$$5 \times 8 + 2 \times 6 + 2 \times 5 + 2 \times 8 + 5 \times 6 + 2 \times 3 = 114$$

$$114 \div 18 = 6.3 \text{ points}$$

(3) Photo flight line flying

60 lines scheduled

5 unscorable due to weather

10 rejected due to vertical and tracker cameras failing

20 within 5 NM of line

20 within 10 NM of line

4 within 14 NM of line

1 within 18 NM of line

$$20 \times 20 + 20 \times 15 + 4 \times 10 + 1 \times 5 = 745$$

$$745 \div 55 = 13.5 \text{ points}$$

g. Combat Reporting.

100 reports required

80 submitted on time

5 submitted 1 to 20 minutes late

5 submitted 21 to 40 minutes late

5 submitted 41 to 60 minutes late

5 submitted 61 to 120 minutes late

$$80 \times 5 + 5 \times 4 + 5 \times 3 + 5 \times 2 + 5 \times 1 = 450$$

$$450 \div 100 = 4.5 \text{ points}$$

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1. Total Numerical Score.

$$8.3 + 8.5 + 18 + 10 + 13.3 + 1.3 + 6.3 + 13.7 + 4.5 = 83.7$$

2. An example of adjectival ratings is not considered necessary.

VI. REPORTS:

At the conclusion of the USCM the Commander, <sup>25X1A14b</sup> [redacted] Support Wing, will submit a report of the results to the Commander In Chief, Strategic Air Command, with information copies to Headquarters USAF, Project Headquarters and the Detachment Commander. Areas where the numerical score was low or where a rating of less than effective was given will be analyzed so as to high-light deficiencies. If appropriate, he will recommend corrective action. He will recommend that the detachment be declared combat ready or, if not, he will outline the additional training or other corrective action considered necessary.

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Colonel  
Commander

USAF

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